CLAIMS

Please amend the presently pending claims as follows:

1. (Currently Amended) A method for sending a signal implemented by a system comprising Nt transmit antennas, with $Nt \geq 2$, wherein the method implements the following steps, for at least one vector comprising N symbols to be sent:

dividing said vector into Nt sub-vectors, wherein the step of dividing is performed by the system;

multiplying each of the Nt sub-vectors by a distinct sub-matrix sized (N/Nt,N), where N/Nt is an integer greater than or equal to 2, each sub-matrix being associated with one of the transmit antennas, and said sub-matrices being obtained by subdivision of a unitary square matrix sized (N,N), and wherein the step of multiplying is performed by the system; and

sending~~, from the Nt transmit antennas,~~ the Nt sub-vectors resulting from the multiplying step, one from each of the Nt transmit antennas.

2-3. (Cancelled)

4. (Previously Presented) The method according to claim 1, wherein said unitary matrix is full.

5. (Previously Presented) The method according to claim 1, wherein said unitary matrix belongs to the group comprising:

- real Hadamard matrices;
- complex Hadamard matrices;
- Fourier matrices;
- real rotation matrices;
- complex rotation matrices.

6. (Previously Presented) The method according to claim 1, wherein the method implements two transmitter antennas and said sub-matrices have a value of [1 1] and [1 -1].

7. (Previously Presented) The method according to claim 1, wherein the method implements two transmitter antennas and said sub-matrices have a value of $\frac{1}{\sqrt{2}}\begin{bmatrix}1 & 1 & 1 & 1\\ 1 & -1 & 1 & -1\end{bmatrix}$ and $\frac{1}{\sqrt{2}}\begin{bmatrix}1 & 1 & -1 & -1\\ 1 & -1 & -1 & 1\end{bmatrix}$.

8. (Previously Presented) The method according to claim 1, wherein the method implements four transmitter antennas and said sub-matrices have a value of [1 1 1 1], [1 -1 1 -1], [1 1 -1 -1] and [1 -1 -1 1].

9. (Currently Amended) A method for reception of a signal corresponding to a combination of contributions of Nt transmit antennas, with $Nt \geq 2$, wherein for at least one vector comprising N symbols to be sent, the signal is generated by dividing said vector into Nt sub-vectors, multiplying each of the Nt sub-vectors by a distinct sub- matrix sized (N/Nt,N), where N/Nt is an integer greater than or equal to 2, each sub-matrix being associated with one of the transmit antennas, and said sub-matrices being obtained by subdivision of a unitary square matrix sized (N,N), and sending~~, from the Nt transmit antennas,~~ the Nt sub-vectors resulting from the multiplying step, one from each of the Nt transmit antennas, wherein the signal forms, seen from a receiver, a single combined signal representing the multiplication, wherein the method of reception comprises:

implementing the method by a system comprising at least one receiver antenna;

receiving said single combined signal on each of said receiver antennas by the system; and

decoding said single combined signal by the system with a decoding matrix corresponding to a matrix that is the conjugate transpose of said unitary matrix.

10. (Previously Presented) The method according to claim 9, wherein a maximum likelihood

decoding is applied to data coming from multiplication by said conjugate transpose matrix.

11. (Cancelled)

12. (Previously Presented) A method for sending a signal implemented by a system comprising two transmit antennas, wherein the method implements the following steps, for at least one vector comprising N symbols to be sent:

dividing said vector into two sub-vectors, wherein the step of dividing is performed by the system;

multiplying each of the two sub-vectors by a distinct sub-matrix sized (N/2,N), where N/2 is an integer, each sub-matrix being associated with one of the transmit antennas, and said sub-matrices being obtained by subdivision of a unitary square matrix sized (N,N) and having a value of $\frac{1}{\sqrt{2}}\begin{bmatrix} 1 & 1 & 1 & 1 \\ 1 & -1 & 1 & -1 \end{bmatrix}$ and $\frac{1}{\sqrt{2}}\begin{bmatrix} 1 & 1 & -1 & -1 \\ 1 & -1 & -1 & 1 \end{bmatrix}$ wherein the step of multiplying is performed by the system; and

sending, from the two transmit antennas, the two sub-vectors resulting from the multiplying step.